

524,029

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
11 March 2004 (11.03.2004)

PCT

(10) International Publication Number
WO 2004/020569 A1

(51) International Patent Classification⁷: **C11D 17/00**,
3/37, 3/12, 17/06

Wakayama-shi, Wakayama 640-8580 (JP). **YAMASHITA, Hiroyuki** [JP/JP]; C/o Kao Corporation, Research Laboratories, 1334, Minato, Wakayama-shi, Wakayama 640-8580 (JP).

(21) International Application Number:
PCT/JP2003/010279

(22) International Filing Date: 13 August 2003 (13.08.2003)

(74) Agent: **HOSODA, Yoshinori**; c/o Hosoda International Patent Office, OMM Building 5th Floor, P.O. Box 26, 7-31, Otemae 1-chome, Chuo-ku, Osaka-shi, Osaka 540-6591 (JP).

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
2002-256222 30 August 2002 (30.08.2002) JP
2002-378465 26 December 2002 (26.12.2002) JP

(81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(71) Applicant (*for all designated States except US*): **KAO CORPORATION** [JP/JP]; 14-10, Nihonbashi Kayabacho 1-chome, Chuo-ku, Tokyo 103-8210 (JP).

(72) Inventors; and

(75) Inventors/Applicants (*for US only*): **HASUMI, Motomitsu** [JP/JP]; c/o Kao Corporation Research Laboratories, 1334, Minato, Wakayama-shi, Wakayama 640-8580 (JP). **NISHI, Toshiki** [JP/JP]; c/o Kao Corporation Research Laboratories, 1334, Minato, Wakayama-shi, Wakayama 640-8580, Wakayama 640 (JP). **KUBOTA, Teruo** [JP/JP]; c/o Kao Corporation Research Laboratories, 1334, Minato, Wakayama-shi, Wakayama 640-8580 (JP). **YAMAGUCHI, Shu** [JP/JP]; c/o Kao Corporation Research Laboratories, 1334, Minato, Wakayama-shi, Wakayama 640-8580 (JP). **NITTA, Hideichi** [JP/JP]; c/o Kao Corporation Research Laboratories, 1334, Minato,

(84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: DETERGENT PARTICLE

(57) **Abstract:** A detergent particle comprising a base detergent particle, a base layer comprising a fine powder, prepared by treating a surface of the base detergent particle with a fine powder dispersion, in which a fine powder is dispersed in a binder, wherein the base layer is formed on the surface of the base detergent particle, and a surface coating comprising a surface modifier, which is formed on the base layer; a process for preparing a detergent particle, comprising the steps of treating a surface of a base detergent particle with a fine powder dispersion in which the fine powder is dispersed in a binder as a dispersion medium to form a base layer on the surface of the base detergent particle; and surface-coating the base layer with a surface modifier; and a fine powder dispersion for forming a base layer comprising a binder and a fine powder, wherein the fine powder is dispersed in the binder. The detergent composition comprising the detergent particle of the present invention can be used as laundry detergents, laundry bleaching agents, cleaning agents for hard surfaces such as detergents for automatic dishwashers, pipe cleaners, and the like.



WO 2004/020569 A1